Saga

User Manual for:

SAGA-720I, SAGA-1350I
SAGA-720II, SAGA-1350II

CE

Congratulations on purchasing Saga cutting plotter!

NOTICE

We reserve the right to modify the information contained in this user manual at any time without prior notice; un-authorized modification, copying distribution is prohibited. All comments, queries or suggestions concerning this manual please consult us.

Please read this guide carefully. It tells you how to prepare your cutting plotter for production use in a few easy steps. we do not assume any liability for direct or indirect damage that occurs due to the use of this product.

1. Precautions

Please read these instructions and precautionary notes carefully before using the machine for the first time!

- Do not place magnetic objects near the cutting head as even contact pressure cannot otherwise be guaranteed.
- Do not unplug the computer connection lead while a plotter is running.
- Release the pressure on contact rollers when not in use by flipping the pressure levers up.
- Keep your hands out of the machine while it is connected to the main power supply.
- Never open the machine case and do not attempt to modify the machine.
- Avoid liquid spills and metal objects entering the interior of the cutter.
- Make sure the power supply is grounded.
- Make sure the main power supply (220V/110V) does not fluctuate by more than ±10%. In case of main power fluctuations, use a voltage stabilizer.
- Unplug the power lead during long periods of inactivity.
- Keep your hands well away from the knife holder while a cutting job is running!
- Always cancel the active job before adjusting the knife holder!
- Keep the cutting plotter well out of the reach of children, and never leave the machine or machine parts unattended when plugged-in.
- Never touch the tips of drag knives to avoid injury.
- Set up the machine on a stable base to avoid danger of falling.
- Never run the machine during a thunder storm; lighting could damage or destroy the machine.

Safety Instructions for

SAGA 1350I, 1350II, 720I, 720II

TO ENSURE SAFE AND CORRECT USE

- To ensure the safe and correct use of your plotter, read this manual thoroughly prior to use.
- After reading this manual, keep it in a handy location for quick reference as necessary.
- Do not allow small children to touch the plotter.
- The following describes important points for safe operation. Be sure to observe them strictly.

Conventions Used in This Manual

To ensure the safe and accurate use of the plotter as well as to prevent human injury and property damage, the safety precautions provided in this manual are ranked in the three categories described below. Their display and meaning is as following. Be sure to gain a full understanding of the meaning of them before reading the Manual.

⚠ DANGER	This category provides information that, if ignored, is highly likely to cause fatal or serious injury to the operator.
⚠ WARNING	This category provides information that, if ignored, is likely to cause fatal or serious injury to the operator.
⚠ CAUTION	This category provides information that, if ignored, could cause injury to the operator or damage to the plotter.

Description of Safety Symbols

⚠	The ⚠ symbol indicates information that requires careful attention (including warnings). The specific point requiring attention is described by an illustration or text within or next to the ⚠ symbol.
⃠	The ⃠ symbol indicates an action that is prohibited. Such prohibited action is described by an illustration or text within or next to the ⃠ symbol.
❗	The ❗ symbol indicates an action that must be performed. Such imperative action is described by an illustration or text within or next to the ❗ symbol.

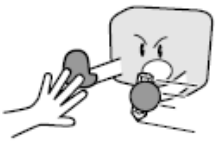
Safety Precautions

⚠ WARNING

Do not touch the rollers or moving parts such as the carriage while cutting or plotting is in progress.

- Such action may result in injury.

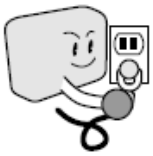
Do not touch



Be sure to ground the earth terminal.

- If the plotter is not grounded, the operator could suffer an electric shock in the event of current leakage.

Ground the plotter



Keep your hands, hair, etc., away from the rollers or moving parts such as the carriage even if the plotter is stopped, as it may suddenly start moving when data is received.

- Such action may result in injury.

Keep your distance

Do not disassemble, repair, or remodel the plotter.

- Such action may cause electric shock or a fire hazard due to current leakage.
- Contact with the high-voltage parts within the plotter may cause electric shock.
- If the plotter requires repairs, contact your sales representative or nearest Signwarehouse vendor.

No disassembly

Do not connect the plotter to a non-rated power supply.

- Such action may cause electric shock or a fire hazard due to current leakage.

Prohibited

Do not use the plotter in a location where it will be exposed to water, rain, or snow.

- Such action may cause electric shock or a fire hazard due to current leakage.

Avoid water

Beware of electric shock

If the plotter generates smoke, overheats, emits a strange odor, or otherwise functions abnormally, do not continue using it. Turn off the power and unplug the power cord from the electrical socket.

- Use of the plotter in such a condition may result in a fire hazard or electric shock.
- After confirming that smoke is no longer being emitted, contact your sales representative or nearest Signwarehouse vendor for repairs.
- Never attempt to perform repairs yourself. Repair work by inexperienced personnel is extremely dangerous.

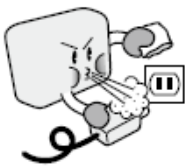
Prohibited

Do not allow dust or metal scraps to adhere to the power plug.

- Such action may cause electric shock or a fire hazard due to current leakage.

Prohibited

Beware of electric shock



Safety Precautions

⚠ WARNING

Do not use the power cord if it is damaged.

- Use of a damaged cord may result in electric shock or a fire hazard due to current leakage.
- Replace the power cord with a new one.

Unplug the power cord from the socket

Be careful when handling the cutter blade.

- Touching the blade with your bare hand may cause injury.
- Do not touch the cutter blade while cutting is in progress.

Do not touch

Safety Precautions

⚠ CAUTION

Do not use or store the plotter in a location exposed to direct sunlight or the direct draft of an air conditioner or heater.

- Such locations may impair the performance of the plotter.

Prohibited

Do not use the plotter in an excessively dusty or humid location.

- Such locations may impair the performance of the plotter.

Prohibited

Do not place any receptacle containing water or other fluid on top of the plotter.

- Fluid falling inside the plotter may cause electric shock or a fire hazard due to current leakage.

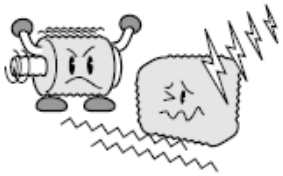
Avoid water

Beware of electric shock

Do not use the plotter in a location subject to excessive mechanical vibration or electrical noise.

- Such locations may impair the performance of the plotter.

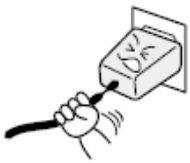
Prohibited



When disconnecting the power cord or interface cable, do not pull on the cord/cable.

- Such action will damage the cord/cable, resulting in a fire hazard or electric shock.

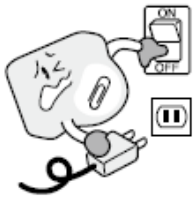
Prohibited



If water or foreign matter enters the plotter, discontinue use. Turn off the power and unplug the power cord from the electrical socket.

- Use of a damaged cord may result in electric shock or a fire hazard due to current leakage.
- Contact your sales representative or nearest Signwarehouse vendor for repairs.

Unplug the power cord from the socket



Safety Precautions

⚠ CAUTION

Do not attempt to lubricate the cutting-plotter mechanisms.

- Such action may cause it to break down.

Prohibited

Do not clean the plotter using volatile solvents such as thinner or benzene.

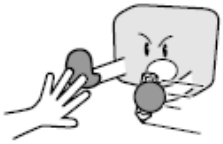
- Such locations may impair the performance of the plotter.

Prohibited

Provide sufficient space around the plotter so that it does not strike any objects in its vicinity during cutting.

- Such contact may cause misalignment in cutting or plotting.

Do not touch

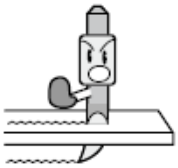


When using indoor lighting such as fluorescent or other electrical lamps, provide a distance of at least one meter between the plotter and the light source.

- Close proximity of such a light source may cause the sensor to malfunction and prevent proper size detection of the media.

When using the cutter, take care not to extend the blade more than necessary.

- An overly extended blade will damage the cutting mat and adversely affect the cutting quality.



Move the tool carriage slowly when moving it manually in order to load the medium or for other reasons.

- Moving it quickly may damage the plotter.

Special Precautions on Handling Blades

Sharp cutter blades are used with this plotter. Handle the cutter blades and holders with care to prevent bodily injury.

Cutter Blades

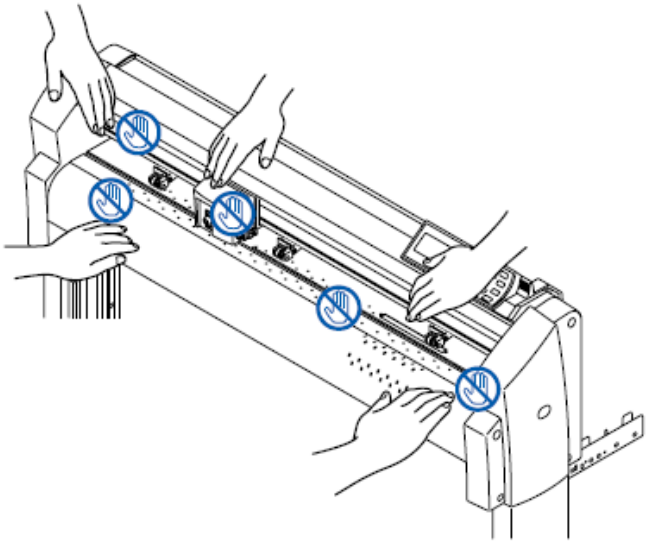
Cutter blades are very sharp. While handling a cutter blade or cutter pen, be careful to avoid cutting your fingers or other parts of your body. Promptly return used blades to the cutter case provided. When the case is completely filled, discard the used blades together with the case.

Cutter Pens

The tip consists of a sharp blade. Be sure not to extend it too far. Moreover, when you are not using the cutter pen, make sure that the blade is fully retracted.

After Turning on the Plotter

During the course of turning on the plotter, be sure to observe the following precautions. The tool carriage and loaded media may suddenly move during the cutting operation, immediately afterward and when setting the plotter's functions. Keep hands, hair, clothing and other objects out of the vicinity of the tool carriage, grit rollers and loaded media. To prevent operator injury and poor cutting results, be careful not to allow hands, hair, clothing or other foreign objects to become entangled with the tool carriage or loaded media while the plotter is operating.



Machine Caution Label

The machine's Caution Label is located on the top cover. Be sure to observe all the cautions on the label.

Notes on the Stand

Be sure to use only the stand designed for the SAGA 1350 series with your SAGA 1350I and II. The use of different stand may cause a plotter malfunction or bodily injury.

2. What's in the box

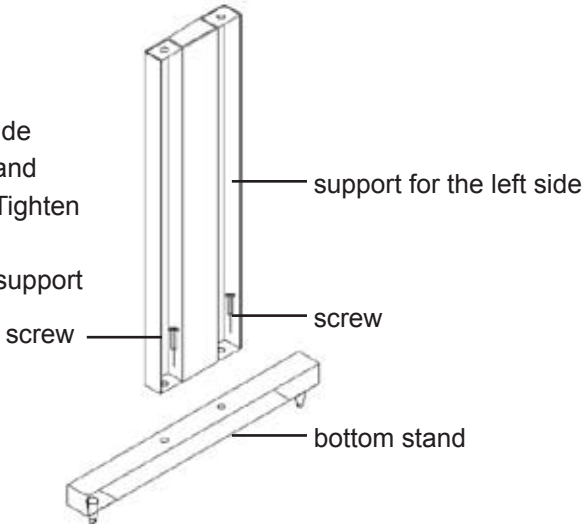
Please check immediately to ensure that you have received the following articles:

- Cutting Plotter
- Cutting Plotter Stand (dismantled)
- Power Lead
- USB connection lead
- RS-232 connection lead
- Knife Holder
- 3 Drag Knives
- Penholder and pen
- User manual
- 1 Spanner, 1 hex key
- CD with software and drivers

3. Floor Stand Installation

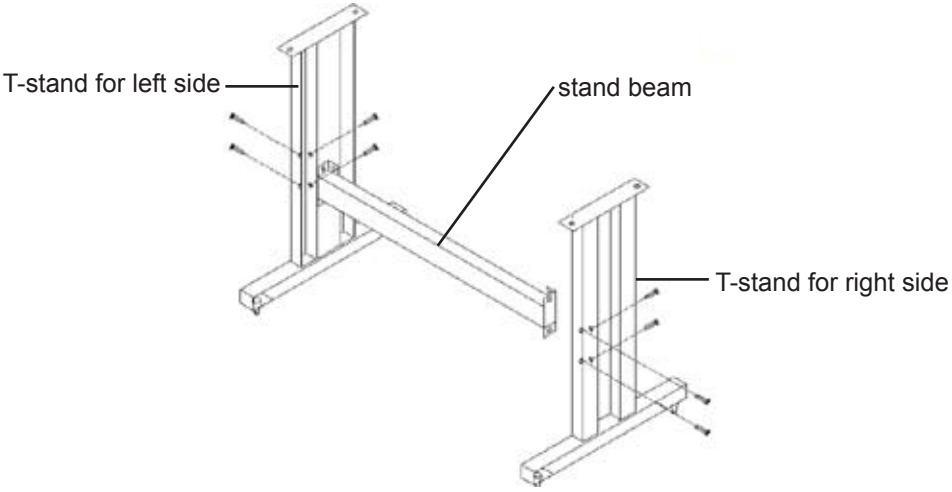
Step1

Position the support for the left side perpendicularly to bottom stand and place the screws into the holes. Tighten them to form a left side T-stand
Repeat the same steps with the support for the right side.



Step2

Place the stand beam upright on the T-stand and put the screws into the holes, but do not tighten them at this step.Repeat the same steps with another stand beam.



Step3

Position the roll holder support's position to floor stand, and tighten the screws.

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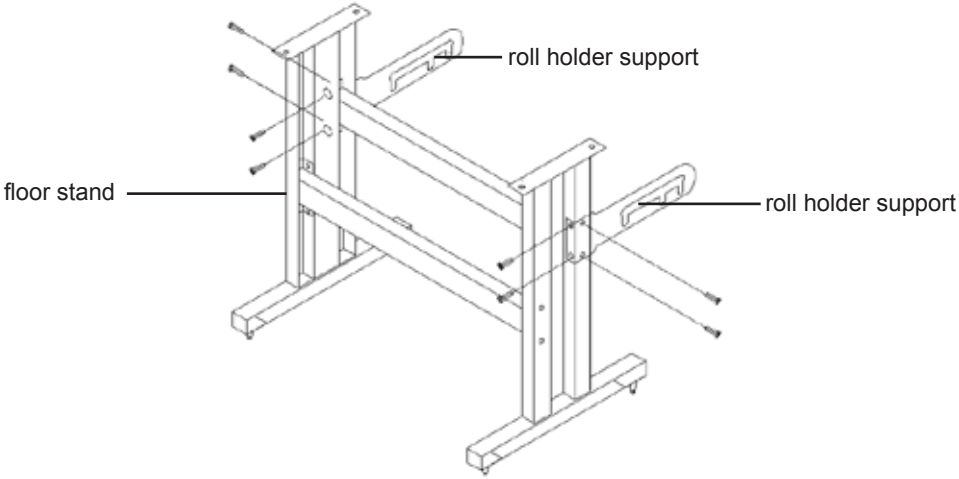
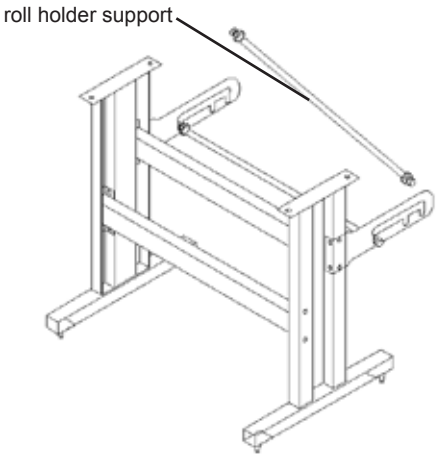


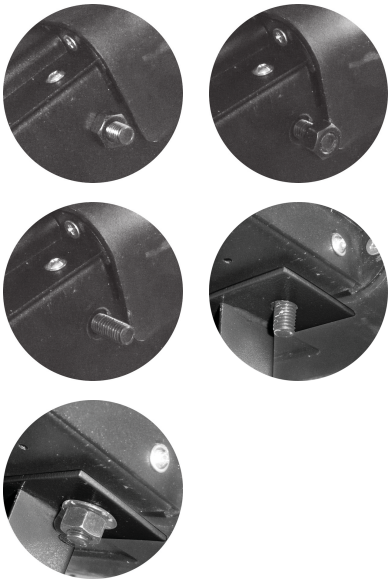
Step4

Place two roll holders into the holes in the roll holder support.



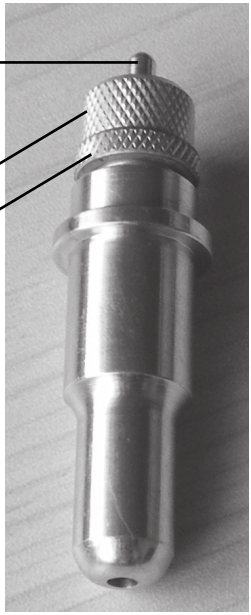
Step5

How to install floor stand to machine?



Take off the screw from bottom of machine, insert bolt to top of floor stand, then tighten the screw.

4. Blade Installation



Caution

Do not touch the tip of the blade with your fingers.

Notice

The blade is a consumable item, and you'll always get the best quality cut with a newer blade. Please replace with a new blade when:

1. The tip of blade is broken.
2. The cutting traces are not as good as they were.
3. The blade will not cut cleanly even though the blade force has been raised significantly.

Step1/Step2/Step3

1, Push the blade to the bottom of the blade holder.

2, Adjust the blade tip to suitable length by rotating "Adjustment depth knobs" and then tighten the lock.

3, Press the push-pin to remove the blade from the blade holder when replacing blade.

step1

step2

step3

5.6. Key function

LCD Screen: To display functions and error messages.
Reset: To restart
Copy: To copy former information
Set: To set up functions.
Test: To perform cutting tests in different ways.
Laser: On/Off laser
▲ Speed: To adjust the value of cutting speed and quality up.
▼ Speed: To adjust the value of cutting speed and quality down.
◀ Force: To adjust the value of cutting force up.
▶ Force: To adjust the value of cutting force down.
Enter: To set item or register the immediately preceding input value.

6. SAGA Plotter 1350I USB Setup with Windows XP/Vista and 7

Ensure that there is enough space to allow unhindered media input and output at the front and rear of the Plotter Cutter. The operating environment for the cutting plotter must be clean and dry.

6.1 Installing the USB Lead

Connect the USB Lead to the SAGA Plotter Cutter and the Computer USB port.

6.2 Installing the USB Interface

1, Attach the Plotter to a 220V/110V mains power supply using the power lead supplied

2, Switch the Plotter Cutter On. CAUTION – Please note that the cutting head will automatically move to the right or left and then stop when switched ON.

3, Windows will detect the SAGA Plotter cutter and install the USB printing driver automatically, please be patient and give Windows sufficient time to recognise and install the driver.

4, Please check for the driver in Device Manager under Universal Serial Bus Controllers/USB Printing support. If the (USB Printer support driver) does not appear, please re-check the power and of the USB lead connection and ensure the plotter is switched on.

The above driver is suffice for Flexi Starter/Artcut and Sign Cut software, please refer to section 9 for further details on the specific settings required for these software's. Only move on the step 6.3 if you would like to install the drivers for Corel Draw and illustrator.

6.3 Installing Drivers for Corel Draw and illustrator ONLY

1, Insert the Corel Draw/illustrator Driver CD provided

2, Explore the Driver CD and open the "Driver folder, select the 'Setup' icon, there have two different drivers, one is special for Windows 7 64 bit, the other one is for all other Windows systems.

3, Please select CUTTER, computer knows which USB# is correct automatically, Normally, it's USB001, click on Install'.

5, Please Restart your Computer

6, Please refer to section 9.4 & 9.5 for more details on the printer selections for Corel Draw and illustrator.

6.3. Loading media

- Always load media for processing from the rear of the machine.
- Pull the lever upward to raise the pinch rollers, Load your media on the platen and slide it under the pinch rollers. Move the pinch rollers manually to the proper position. Be sure the pinch rollers are positioned above the grid drum. The white marks on top trail will help you position pinch rollers when media on the platen. Push the lever downward to lower down the pinch rollers.
- If you are using roll media rather than precut media, use the supplied roll holder to ensure that the media unrolls smoothly.
- When loading media, ensure that the media is straight to avoid warping when transporting the media. A misalignment of just a few millimeters can cause severe media warp in longer plots.
- You can load the media at any horizontal position in the machine; it does not matter whether the media is centered, or aligned on the left or right.
- Fix the pressure rollers by snapping them into place at the outer edges of the media; this ensures straight feeding of the media and defines the maximum cutting area.

6.4. Setting the zero point

The zero point is the point on the loaded media where the plot job will start. You need to set the zero point whenever you switch the machine on, or after loading media for processing.

- Switch the cutting plotter on. When the cutting plotter is switched on, the cutting head can be changed and modified as required.
- To change the zero point setting for your cutting plotter, first press the Online/Offline key to toggle to Offline Mode.
- You can now adjust the zero point by pressing the four arrow keys. We recommend setting the zero point to the front right corner of the media. While the cutter head is moving, the current coordinates are display relative to the previous zero point setting.
- Press Enter to confirm the new zero point setting.
  The coordinates shown in the display are set to zero.

6.5. Settings Mode

You can press the Mode key multiple times in Offline mode to toggle through the following menus:

Pressure

Use the Left/Right keys to set the pressure in units of one gram; the valid range of values is between 0g and 510g, 2g/step.

When setting the cutting pressure, please note that the correct setting mainly depends on the knife holder, the position of the knife, and the loaded media. These settings are subject to variation.

Speed

Again use the Up/Down keys on the operating panel to set the speed.

X-Scale/Y-Scale
Do not change the X and/or Y-Scale values as they are used to compensate for wear and tear of the transport belts. Only change these settings, if plots become distorted.

Baud

The baud rate is the communication speed for the cutting plotter and the serial port on your computer. This setting must reflect the baud rate set in the properties dialog for your COM port, or in the softwares. Value of 9600/19200/38400 are typically set, but this can vary depending on your COM port setting.

Additional settings in the display: ON/Offline (pause the plot)

Press this key to pause the current plot; you can then modify settings performed previously. The display now shows the force and the speed; both values can be modified.

6.6. Cutting test

- Press the Test key to perform a cutting test. The cutting plotter will now cut a square containing a triangle divided into four quadrants.

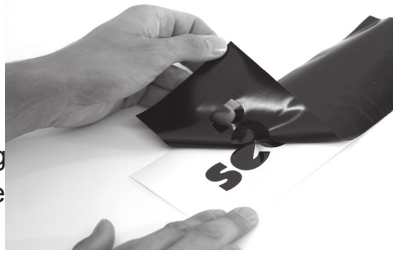
- The cutting test helps you verify the knife holder setting and cutting pressure. The cutting test should give you clean and straight cuts in the loaded media; there should be no damage to the backing.

- If the test cuts through the backing, either the cutting force is too high, or blade or knife holder setting is incorrect. Change these settings and repeat the cutting test.

- You will also need to change the settings, in case of imprecise or too shallow cuts.

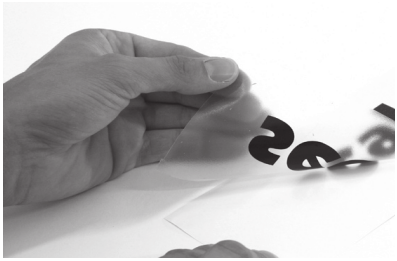
7. After cutting

7.1. Weeding



Weeding refers to the process of removing the parts of the media you do not require. We recommend using a scalpel or a special weeding tool for this job, to avoid damage to the adhesive surface. After weeding, you can use a transfer press to transfer flock and flex media to the textiles to be processed; apply application tape to self-adhesive media before transferring.

7.2. Applying



Apply application tape to the weeded material and use a roller or flat scraper to press down firmly. To apply adhesive to the transfer foil, remove the backing from the foil to leave the adhesive affixed to the application tape. You can now apply the adhesive to the required surface.

8. Drag knives

Drag knives are extremely sensitive, extremely sharp and dangerous precision tools.

- Always keep knives well out the reach of children!
- To avoid danger of injury, always handle knives with caution.
- Handle drag knives with caution, and always replace the protective cap when not in use. If the tip of the knife comes into contact with a hard material such as glass or stone, tiny fissures may occur at the knife tip making the knife useless. Note the following to avoid unnecessary wear and tear of your drag knives and to ensure maximum working life.
- Avoid cutting the backing of loaded media. The deeper you cut into the loaded material, the more wear and tear the drag knives are exposed to.
- Always set the cutting depth of the knives to cut the media precisely and cleanly without cutting too deep. Extending the knives beyond the required cutting depth impacts the service life of the knives without achieving better cutting results.
- Always use the right custom knives for thicker material
- Ragged edges on cutting the loaded media show that the knives are blunt. Always replace blunt knives immediately!

Basic maintenance

8.1 Cleaning the Cutting Plotter

I

n order to keep the cutting plotter under good condition and best performance, you need to clean the machine properly and regularly.

Precaution in Cleaning

Unplug the cutting plotter before cleaning. Never use solvents, abrasive cleaners or strong detergents for cleaning. They may damage surface of the cutting plotter and moving parts

Recommended Methods

- Gently wipe the cutting plotter surface with a lint-free cloth. If necessary, clean with a damp cloth or an alcohol-immersed cloth. Wipe with water to rinse off any residue and dry with a soft, lint-free cloth.
- Wipe all dust and dirt from the tool carriage rails.
- Use a vacuum cleaner to empty any accumulated dirt and media residue from beneath the pinch roller housing.
- Clean the platen, paper sensors and pinch rollers with a damp cloth and dry with a soft, lint-free cloth.
- Wipe dust and dirt from the stand.

8.2 Cleaning the Grid Drum

- Turn off the cutting plotter, and move the tool carriage away from the area needed to be cleaned.
- Raise the pinch rollers and move them away from the grid drum for cleaning.
- Use a bristle brush (a toothbrush is acceptable) to remove dust from the drum surface. Rotate the drum manually while cleaning.

8.3 Cleaning the Pinch Rollers

If the pinch rollers need a thorough cleaning, use a lint-free cloth or cotton swab to wipe away the accumulated dust from the rubber portion of the pinch rollers. To prevent the pinch rollers from rotating while cleaning, use your finger to hold them in place. If needed to remove the embedded or persistent dust, use the lint-free cloth or cotton swab moistened with rubbing alcohol.

Note: Daily maintenance of your cutting plotter is very important. Be sure to clean the grid drum and pinch rollers regularly for better cutting accuracy and output quality.

Technical Specifications/Servo cutting plotter

Item No.	SAGA-720II	SAGA-1350II
Max. media width	720mm	1350mm
Max. cutting width	630mm	1260mm
Max. speed	960mm/s	960mm/s
Mechanical resolution	0,01254mm	0,01254mm
Cutting force	0-510g	0-510g
Accuracy	+/- 0,01mm	+/- 0,01mm
Connectors	USB/RS-232	USB/RS-232
Drive	Servo	Servo
Power consumption	< 100W	< 100W
Ambient temperature	+5°C - +35°C	+5°C - +35°C
Meas	99 x 34 x 43cm	160 x 34 x 40cm
G.W./N.W.	27.5/25kgs	38/35kgs

Technical Specifications/Stepper Cutting Plotter

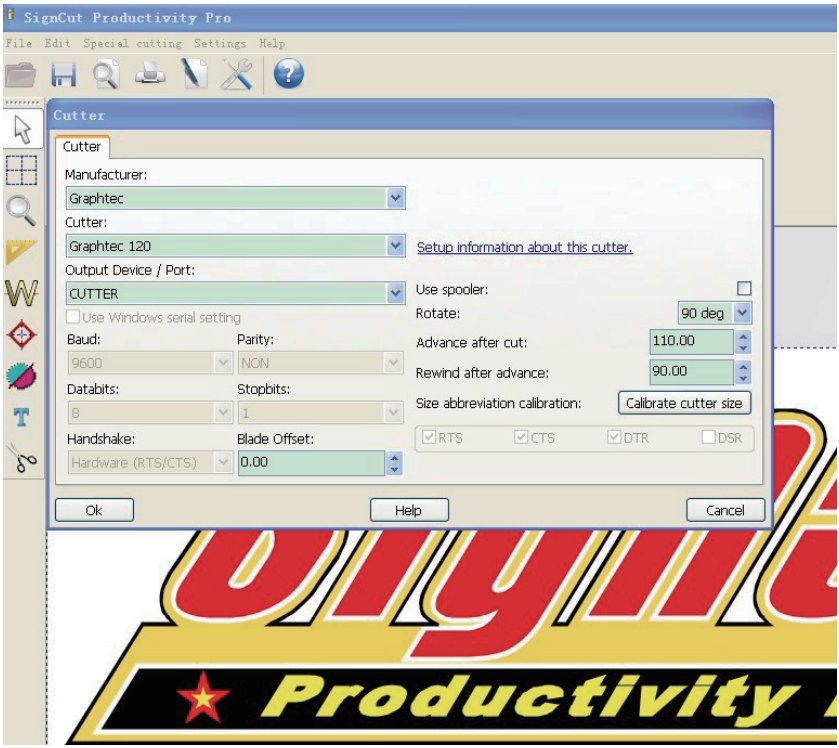
Item No.	SAGA-720I	SAGA-1350I
Max. media width	720mm	1350mm
Max. cutting width	630mm	1260mm
Max. speed	800mm/s	800mm/s
Mechanical resolution	0,0254mm	0,0254mm
Cutting force	0-510g	0-510g
Accuracy	+/- 0,05mm	+/- 0,05mm
Connectors	USB/RS-232	USB/RS-232
Drive	Stepper	Stepper
Power consumption	< 120W	< 120W
Ambient temperature	+5°C - +35°C	+5°C - +35°C
Meas	99 x 34 x 43cm	160 x 34 x 40cm
G.W./N.W.	27.5/25kgs	38/35kgs

9. Software Settings Required for SAGA Plotter (Sign Cut/FlexiStarter 10.0/Artcut/ Corel Draw and illustrator)

We have instructed the major software companies to include our Manufacturer selection to make it easier for the customer to set up and this is likely to be available to all software versions from 2010. We have included below the main software's and the setup that is required to synchronize the software with the SAGA 1350i Plotter.

9.1 Sign Cut Settings

Please see below the settings required for Sign Cut:



9.2 Flexi Starter 10.0 Settings

Please see below the settings required for Flexi Starter 10.0:

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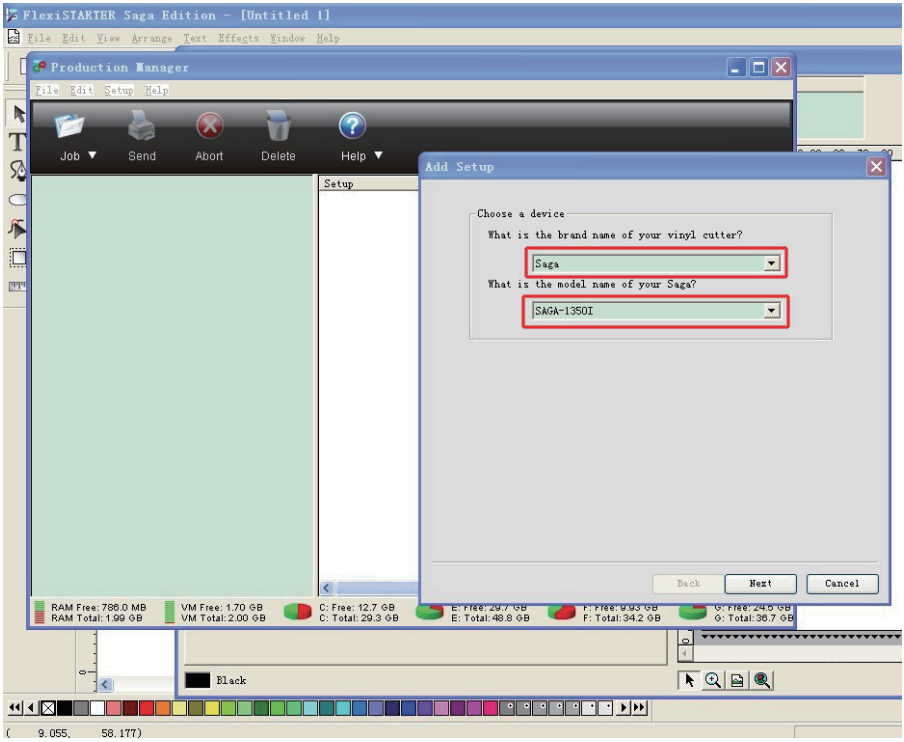
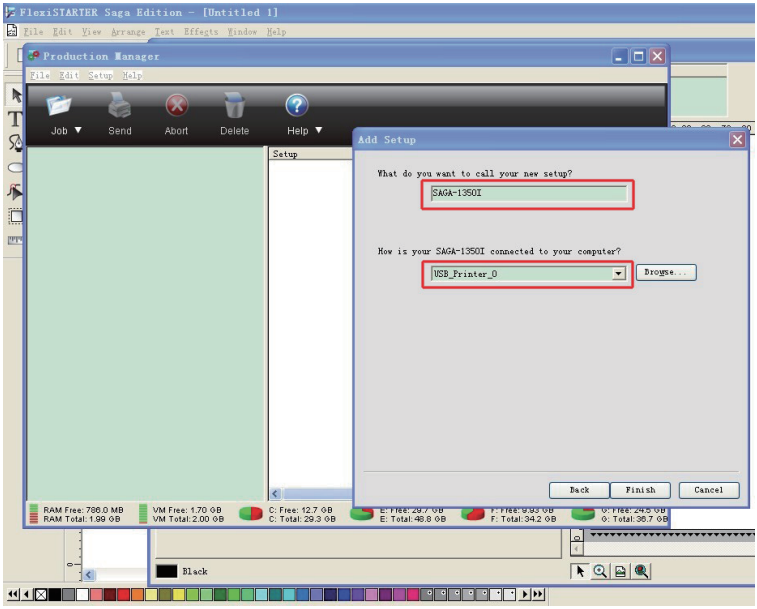
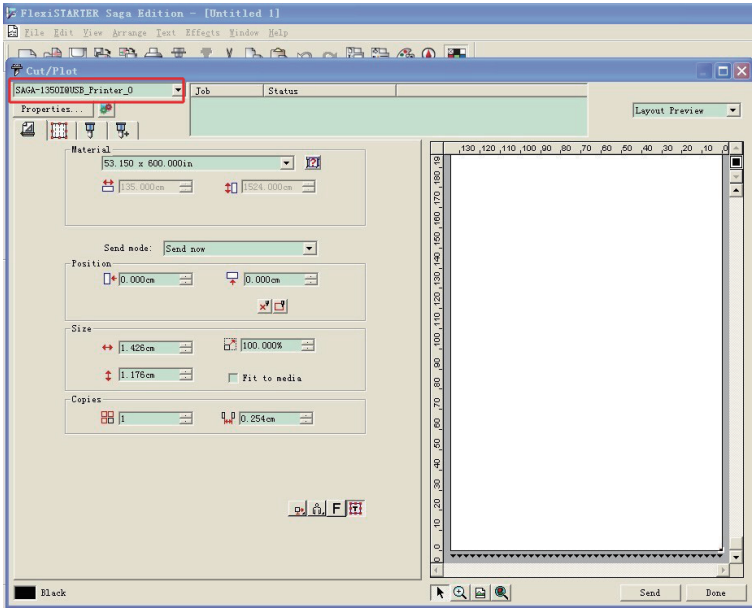
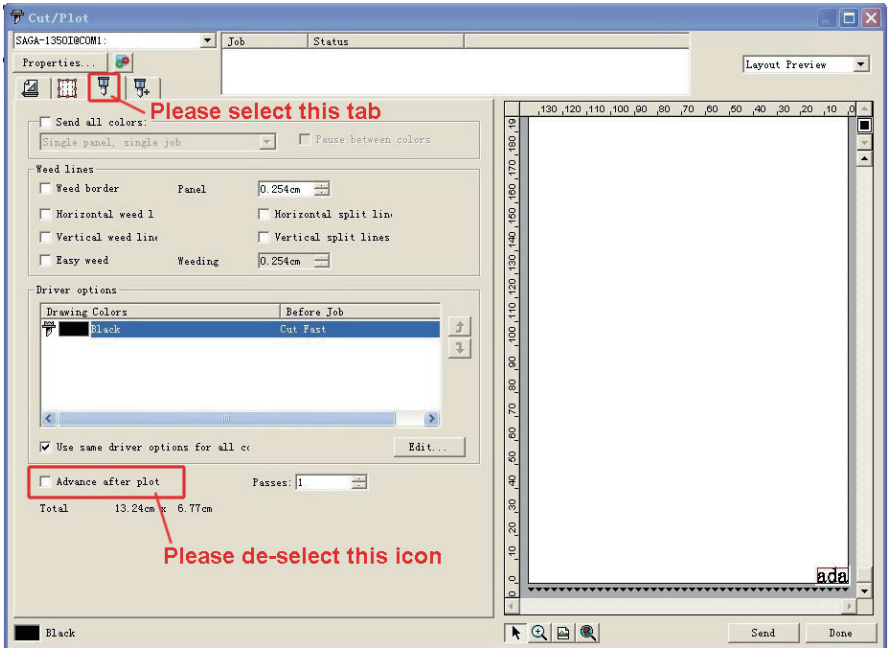



FlexiSTARTER Saga Edition - [Untitled 1]
Production Manager
Job
Send
Abort
Delete
Help
Add Setup
What do you want to call your new setup?
SAGA-1350I
How is your SAGA-1350I connected to your computer?
USB_Printer_0
Browse...
Back
Finish
Cancel
Setup
Black


FlexiSTARTER Saga Edition - [Untitled 1]
Cut/Plot
SAGA-1350I@USB_Printer_0
Properties...
Job
Status
Layout Preview
Material
53.150 x 600.000in
135.000cm
1524.000cm
Send mode:
Send now
Position
0.000cm
0.000cm
Size
1.426cm
100.000%
1.176cm
Fit to media
Copies
1
0.254cm
Black
Send
Done

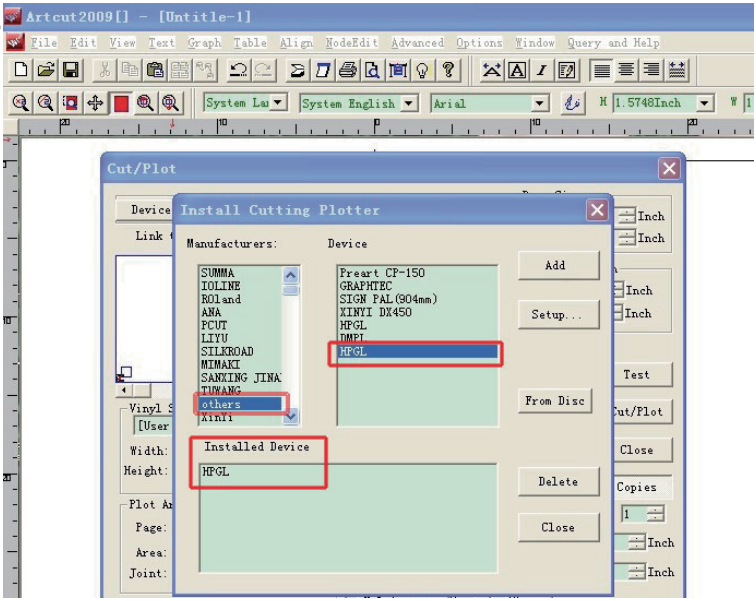
Settings required to for the printer head to return to origin.

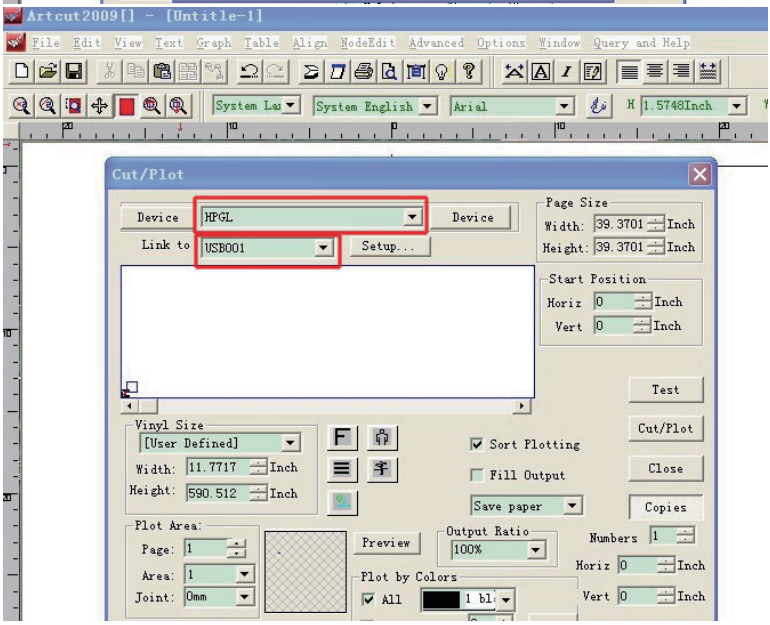


Please select the ‘F1’ key if you would like to be directed to FLEXI Help.

9.3 Artcut Settings

Please see below the settings required for Artcut:





9.4 More info of cutting from Coreldraw

A, To design any jobs you want in Coreldraw
B, Select Print
C, Select CUTTER as printer
D, you can cut from Coreldraw now

9.5 More info of cutting from Illustrator

A, To design any jobs you want in Illustrator
B, Select Print
C, Select CUTTER as printer
D, you can cut from Illustrator now

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